

# STAFF REPORT

## LOCALIZED HEALTH IMPACTS REPORT

For Alternative and Renewable Fuel and Vehicle  
Technology Program (ARFVTP) Project 600-14-004, Federal  
Buildings Charging Network Project for the United States  
General Services Administration



CALIFORNIA  
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

December 2014

CEC-600-2014-010

# CALIFORNIA ENERGY COMMISSION

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## ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The AQIP Guidelines require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the project proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this *Localized Health Impacts Report*.

**Keywords:** Air pollution, air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, electric vehicle charging station (EVCS), Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), plug-in electric vehicle (PEV)

Please use the following citation for this report:

Brecht, Patrick. 2014. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2014-010.

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## EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this *Localized Health Impacts Report* describes the alternative fuel infrastructure projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include a project that requires only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts a project may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The project in this *Localized Health Impacts Report* is assessed for potential health impacts for the communities in which it will be located. Based on this analysis, it is not anticipated that implementation of this project will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the project stands to provide improved quality of life through cleaner air.



# CHAPTER 1:

## Project Proposed for Funding

The ARFVTP electric vehicle infrastructure project proposed for funding the installation of 41 Level 2 electric vehicle charging stations (EVCSs) at federal facilities in California. Responding to Federal Executive Order 13514<sup>1</sup>, which establishes a federal strategy for greenhouse gas reduction, the United States General Services Administration (GSA) plans to procure vehicles for federal agencies, thereby converting 10 percent of the California federal fleet of internal combustion engine (ICE) vehicles to plug-in electric vehicles (PEVs) over the next four years.

This *Localized Health Impacts Report* assesses the potential localized health impacts of the new infrastructure. The proposed addresses for the EVCSs follow:

**Table 1: Proposed Addresses for 41 Level 2 Electric Vehicle Charging Stations**

620 Central Avenue, Alameda, California 94501-7815
510 19 <sup>th</sup> Street, Bakersfield, California 93301
1 Cyclotron Road, Berkeley, California 94720
1699 East Carr Road, Calexico, California 92231-9703
200 East 1 <sup>st</sup> Street, Calexico, California 92231-2798
2500 Tulare Street, Fresno, California 93721-1321
15000 Aviation Boulevard, Hawthorne, California 90250-6656
24000 Avila Road, Laguna Niguel, California 92677-3400
7000 East Avenue, Livermore, California 94550
501 West Ocean Boulevard, Long Beach, California 90802-4213
11000 Wilshire Boulevard, Los Angeles, California 90024-3602
255 East Temple Street, Los Angeles, California 90012-3332
300 North Los Angeles Street, Los Angeles, California 90012-3308
312 North Spring Street, Los Angeles, California 90012-4701
345 Middlefield Road, Menlo Park, California 94025-3561
2575 Sand Hill Road, Menlo Park, California 94025
1301 Clay Street, Oakland, California 94612-5217
125 South Grand Avenue, Pasadena, California 91105-1643
1221 Nevin Avenue, Richmond, California 94801-3123
2800 Cottage Way, Sacramento, California 95825-1846
501 I Street, Sacramento, California 95814-7300
650 Capitol Mall, Sacramento, California 95814-4708
880 Front Street, San Diego, California 92101-8897
2500 Paseo International –Otay, San Diego, California 92154-7209
Via De La Amistad –Otay, San Diego, California 92154
720 East San Ysidro Boulevard, San Diego, California 92173-3115
801 East San Ysidro Boulevard, San Diego, California 92173-3116

<sup>1</sup> <http://www.whitehouse.gov/administration/eop/ceq/sustainability>.

333 West Broadway, San Diego, California 92101-3823
325 West F Street, San Diego, California 92101-6017
450 Golden Gate Avenue, San Francisco, California 94102-3661
90 7 <sup>th</sup> Street, San Francisco, California 94102-3661
95 7 <sup>th</sup> Street, San Francisco, California 94103-1518
630 Sansome Street, San Francisco, California 94111-2206
555 Battery Street, San Francisco, California 94111-2312
50 United Nations Plaza, San Francisco, California 94102-4912
280 S 1 <sup>st</sup> Street, San Jose, California 95113-3002
34 Civic Center Plaza, San Ana, California 92701-4025
411 West 4 <sup>th</sup> Street, Santa Ana, California 92701-4500
777 Sonoma Avenue, Santa Rosa, California 95404-4731
6230 Van Nuys Boulevard, Van Nuys, California 91401-2713
Andrade Port of Entry, Winterhaven, California 92283-9998

Source: California Energy Commission staff analysis



## CHAPTER 2:

# Identification of Communities Potentially Impacted by Air Pollution

The Localized Health Impact Report Assessment Method in Appendix A is used to assess communities potentially impacted by air pollution and benefitted by the use of zero-emission vehicles, such as electric vehicles as a result of this proposed project. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.<sup>2</sup> Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,<sup>3</sup> which contains publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*<sup>4</sup>.

All the communities planned for the EVSC locations are in PM 10 nonattainment zones. Table 2 shows information on environmental justice (EJ) indicators for the 22 cities, such as minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Only Laguna Nigel, Livermore, and Santa Rosa are not "at-risk communities" since they also have no EJ indicators.

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2 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

3 <http://www.arb.ca.gov/planning/sip/sip.htm>.

4 <http://www.epa.gov/oaqps001/greenbk>.

**Table 2: Environmental Justice (EJ) Indicators (percentage) Compared to the State of California**

Yellow highlighted areas indicate numbers that meet the definition for EJ indicators.

	Number of EJ Indicators	Below Poverty Level (2008-2012)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (10/14 2014)
<b>California</b>		<b>15.3</b>	<b>6.2</b>	<b>1.0</b>	<b>13.0</b>	<b>37.6</b>	<b>6.8</b>	<b>11.4</b>	<b>7.3</b>
			>30	>30	>30	>30			
Alameda	1	9.4	6.4	0.6	31.2	11.0	5.7	13.5	3.8
Bakersfield	3	19.3	8.2	1.5	6.3	45.5	9	8.4	8.7
Berkeley	1	18.1	10	0.4	19.5	10.8	3.7	11.7	6.3
Calexico	3	24.1	0.3	0.5	1.3	96.8	7.7	11.4	26.4
Fresno	4	27.5	8.3	1.7	12.6	46.9	8.9	9.3	9.5
Hawthorne	3	18.9	27.7	0.7	6.7	52.9	8.0	7.4	10.4
Laguna Niguel	None	5.6	1.2	0.3	8.7	13.9	5.1	13.0	3.9
Livermore	None	5.3	2.1	0.6	8.4	20.9	6.6	10.3	3.6
Long Beach	3	20.2	13.5	0.7	12.9	40.8	7.0	9.3	8.7
Los Angeles	3	21.2	9.6	0.7	11.3	48.5	6.6	10.5	8.7
Menlo Park	1	6.5	4.8	0.5	9.9	18.4	7.7	14.3	3.3
Oakland	2	20.3	28.0	0.8	16.8	25.4	6.7	11.1	8.7
Pasadena	2	12.9	10.7	0.6	14.3	33.7	6.0	13.5	9.9
Richmond	3	17.9	26.6	0.6	13.5	39.5	7.4	10.2	9.4
Sacramento	2	20.2	14.6	1.1	18.3	26.9	7.5	10.6	8.0
San Diego	1	15.4	6.7	0.6	15.9	28.8	6.2	10.7	5.8
San Francisco	2	13.2	6.1	0.5	33.3	15.1	4.4	13.6	4.3

	Number of EJ Indicators	Below Poverty Level (2008-2012)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (10/14 2014)
San Jose	2	11.7	3.2	0.9	32.0	33.2	7.3	10.1	5.7
Santa Ana	4	20.7	1.5	1.0	10.5	78.2	8.9	6.8	8.1
Santa Rosa	None	13.2	2.4	1.7	5.2	28.6	6.8	13.5	4.9
Van Nuys	3	21.2	9.6	0.7	11.3	48.5	6.6	10.5	8.7
Winterhaven	2	Not available at time of publication	1.0	9.4	0.3	66.2	8.9	16.8	Not available at time of publication

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133> and [Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov](http://www.census.gov/hhes/ethnicity/race/ethnicity.html).

## **CHAPTER 4:**

### **Summary**

The proposed project will result in 41 new EVCS sites. Of the 22 cities where project sites are proposed, there are 19 cities with EJ indicators. Among the 22 cities, 15 have minority indicators; 13 have poverty indicators; 12 have unemployment indicators; and 6 sites have age indicators in the proposed cities.

The anticipated net benefit from the installation of EVCSs for people who live and work in these cities is likely positive. As more electric vehicles are used, tailpipe pollutants as well as greenhouse gas will decrease.

## **CHAPTER 5:**

### **Acronyms**

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative Fuel Vehicle (AFV)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Electric vehicle charging station (EVCS)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

General Services Administration (GSA)

Greenhouse gas (GHG)

Internal combustion engine (ICE)

Localized health impact (LHI)

New Source Review (NSR)

Plug-in electric vehicle (PEV)

Particulate matter (PM)

## APPENDIX A:

# Localized Health Impact Report Assessment Method

Based on the Energy Commission's interpretation of the AQIP Guidelines, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review process. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.<sup>5</sup>

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

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<sup>5</sup> California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

## Determining High Risk Communities

To determine high risk communities, environmental justice (EJ) indicators for locations of the Level 2 EVCSs are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard as follows:

### Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

### Part 2:

- Communities having one or more of the following EJ indicators; (1) minority, (2) poverty, (3) unemployment; and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
  - A minority subset represents more than 30 percent of a given city's population. [MINORITY]
  - A city's poverty level exceeds California's poverty level. [POVERTY]
  - A city's unemployment rate exceeds California's unemployment rate. [UNEMPLOYMENT]
  - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. [SENSITIVE POPULATIONS – AGE]

For a community to be considered high risk, for this assessment, it must meet both Parts 1 and 2 of this standard.